

## ANALYTICAL REPORT

Eurofins TestAmerica, Canton  
4101 Shuffel Street NW  
North Canton, OH 44720  
Tel: (330)497-9396

Laboratory Job ID: 240-144712-1  
Client Project/Site: Ford LTP - On Site

For:  
ARCADIS U.S., Inc.  
28550 Cabot Drive  
Suite 500  
Novi, Michigan 48377

Attn: Kristoffer Hinskey



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Authorized for release by:  
3/8/2021 11:03:23 AM

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*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	5
Sample Summary . . . . .	6
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	14
QC Sample Results . . . . .	15
QC Association Summary . . . . .	18
Lab Chronicle . . . . .	19
Certification Summary . . . . .	20
Chain of Custody . . . . .	21

# Definitions/Glossary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

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## Job ID: 240-144712-1

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Laboratory: Eurofins TestAmerica, Canton

### Narrative

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Job Narrative  
240-144712-1

### Comments

No additional comments.

### Receipt

The samples were received on 2/20/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9° C.

### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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- 2
- 3
- 4
- 5
- 6
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- 13
- 14

# Method Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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# Sample Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-144712-1	TRIP BLANK	Water	02/17/21 00:00	02/20/21 08:00	
240-144712-2	MW-64_021721	Water	02/17/21 09:50	02/20/21 08:00	
240-144712-3	MW-37_021721	Water	02/17/21 11:30	02/20/21 08:00	
240-144712-4	MW-38_021721	Water	02/17/21 12:55	02/20/21 08:00	
240-144712-5	MW-219S_021721	Water	02/17/21 14:15	02/20/21 08:00	
240-144712-6	MW-33_021721	Water	02/17/21 15:42	02/20/21 08:00	

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# Detection Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-144712-1**

No Detections.

**Client Sample ID: MW-64\_021721**

**Lab Sample ID: 240-144712-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.37	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	2.6		1.0	0.20	ug/L	1		8260B	Total/NA

**Client Sample ID: MW-37\_021721**

**Lab Sample ID: 240-144712-3**

No Detections.

**Client Sample ID: MW-38\_021721**

**Lab Sample ID: 240-144712-4**

No Detections.

**Client Sample ID: MW-219S\_021721**

**Lab Sample ID: 240-144712-5**

No Detections.

**Client Sample ID: MW-33\_021721**

**Lab Sample ID: 240-144712-6**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-144712-1**

**Date Collected: 02/17/21 00:00**

**Matrix: Water**

**Date Received: 02/20/21 08:00**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 18:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 18:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 18:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 18:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 18:00	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		75 - 130		02/26/21 18:00	1
4-Bromofluorobenzene (Surr)	102		47 - 134		02/26/21 18:00	1
Toluene-d8 (Surr)	93		69 - 122		02/26/21 18:00	1
Dibromofluoromethane (Surr)	107		78 - 129		02/26/21 18:00	1



# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: MW-64\_021721**

**Lab Sample ID: 240-144712-2**

Date Collected: 02/17/21 09:50

Matrix: Water

Date Received: 02/20/21 08:00

**Method: 8260B SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/26/21 11:38	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	82		70 - 133					02/26/21 11:38	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 18:24	1
<b>cis-1,2-Dichloroethene</b>	<b>0.37</b>	<b>J</b>	1.0	0.16	ug/L			02/26/21 18:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 18:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 18:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 18:24	1
<b>Vinyl chloride</b>	<b>2.6</b>		1.0	0.20	ug/L			02/26/21 18:24	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	102		75 - 130					02/26/21 18:24	1
4-Bromofluorobenzene (Surr)	102		47 - 134					02/26/21 18:24	1
Toluene-d8 (Surr)	92		69 - 122					02/26/21 18:24	1
Dibromofluoromethane (Surr)	107		78 - 129					02/26/21 18:24	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: MW-37\_021721**

**Lab Sample ID: 240-144712-3**

Date Collected: 02/17/21 11:30

Matrix: Water

Date Received: 02/20/21 08:00

**Method: 8260B SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/26/21 12:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133					02/26/21 12:03	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 18:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 18:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 18:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 18:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 18:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 18:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130					02/26/21 18:48	1
4-Bromofluorobenzene (Surr)	104		47 - 134					02/26/21 18:48	1
Toluene-d8 (Surr)	93		69 - 122					02/26/21 18:48	1
Dibromofluoromethane (Surr)	106		78 - 129					02/26/21 18:48	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: MW-38\_021721**

**Lab Sample ID: 240-144712-4**

Date Collected: 02/17/21 12:55

Matrix: Water

Date Received: 02/20/21 08:00

**Method: 8260B SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/26/21 13:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133		02/26/21 13:19	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 19:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 19:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 19:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 19:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 19:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 130		02/26/21 19:13	1
4-Bromofluorobenzene (Surr)	101		47 - 134		02/26/21 19:13	1
Toluene-d8 (Surr)	90		69 - 122		02/26/21 19:13	1
Dibromofluoromethane (Surr)	107		78 - 129		02/26/21 19:13	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: MW-219S\_021721**

**Lab Sample ID: 240-144712-5**

Date Collected: 02/17/21 14:15

Matrix: Water

Date Received: 02/20/21 08:00

**Method: 8260B SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/26/21 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		70 - 133					02/26/21 13:44	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 19:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 19:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 19:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 19:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 19:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 19:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130					02/26/21 19:37	1
4-Bromofluorobenzene (Surr)	101		47 - 134					02/26/21 19:37	1
Toluene-d8 (Surr)	89		69 - 122					02/26/21 19:37	1
Dibromofluoromethane (Surr)	99		78 - 129					02/26/21 19:37	1

# Client Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

**Client Sample ID: MW-33\_021721**

**Lab Sample ID: 240-144712-6**

Date Collected: 02/17/21 15:42

Matrix: Water

Date Received: 02/20/21 08:00

**Method: 8260B SIM - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/26/21 14:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		70 - 133		02/26/21 14:09	1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 20:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 20:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 20:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 20:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 20:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130		02/26/21 20:01	1
4-Bromofluorobenzene (Surr)	101		47 - 134		02/26/21 20:01	1
Toluene-d8 (Surr)	90		69 - 122		02/26/21 20:01	1
Dibromofluoromethane (Surr)	101		78 - 129		02/26/21 20:01	1

# Surrogate Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-144712-1	TRIP BLANK	103	102	93	107
240-144712-2	MW-64_021721	102	102	92	107
240-144712-3	MW-37_021721	101	104	93	106
240-144712-3 MS	MW-37-MS_021721	92	103	94	93
240-144712-3 MSD	MW-37-MSD_021721	93	103	94	94
240-144712-4	MW-38_021721	105	101	90	107
240-144712-5	MW-219S_021721	101	101	89	99
240-144712-6	MW-33_021721	101	101	90	101
LCS 240-474649/5	Lab Control Sample	93	103	93	94
MB 240-474649/8	Method Blank	101	103	91	103

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
TOL = Toluene-d8 (Surr)  
DBFM = Dibromofluoromethane (Surr)

## Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (70-133)
240-144712-2	MW-64_021721	82
240-144712-3	MW-37_021721	80
240-144712-3 MS	MW-37-MS_021721	80
240-144712-3 MSD	MW-37-MSD_021721	81
240-144712-4	MW-38_021721	80
240-144712-5	MW-219S_021721	79
240-144712-6	MW-33_021721	79
LCS 240-474632/4	Lab Control Sample	80
MB 240-474632/5	Method Blank	80

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-474649/8**  
**Matrix: Water**  
**Analysis Batch: 474649**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 12:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/21 12:15	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/21 12:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/21 12:15	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/21 12:15	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/21 12:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 130		02/26/21 12:15	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/26/21 12:15	1
Toluene-d8 (Surr)	91		69 - 122		02/26/21 12:15	1
Dibromofluoromethane (Surr)	103		78 - 129		02/26/21 12:15	1

**Lab Sample ID: LCS 240-474649/5**  
**Matrix: Water**  
**Analysis Batch: 474649**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	20.0	20.0		ug/L		100	73 - 129
cis-1,2-Dichloroethene	20.0	19.8		ug/L		99	75 - 124
Tetrachloroethene	20.0	19.2		ug/L		96	70 - 125
trans-1,2-Dichloroethene	20.0	19.5		ug/L		97	74 - 130
Trichloroethene	20.0	18.2		ug/L		91	71 - 121
Vinyl chloride	20.0	23.3		ug/L		116	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	94		78 - 129

**Lab Sample ID: 240-144712-3 MS**  
**Matrix: Water**  
**Analysis Batch: 474649**

**Client Sample ID: MW-37-MS\_021721**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	20.0	19.7		ug/L		99	64 - 132
cis-1,2-Dichloroethene	1.0	U	20.0	20.1		ug/L		100	68 - 121
Tetrachloroethene	1.0	U	20.0	19.0		ug/L		95	52 - 129
trans-1,2-Dichloroethene	1.0	U	20.0	19.7		ug/L		98	69 - 126
Trichloroethene	1.0	U	20.0	17.6		ug/L		88	56 - 124
Vinyl chloride	1.0	U	20.0	25.7		ug/L		129	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	94		69 - 122

# QC Sample Results

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-144712-3 MS  
Matrix: Water  
Analysis Batch: 474649

Client Sample ID: MW-37-MS\_021721  
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	93		78 - 129

Lab Sample ID: 240-144712-3 MSD  
Matrix: Water  
Analysis Batch: 474649

Client Sample ID: MW-37-MSD\_021721  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	20.0	20.7		ug/L		104	64 - 132	5	35
cis-1,2-Dichloroethene	1.0	U	20.0	21.0		ug/L		105	68 - 121	4	35
Tetrachloroethene	1.0	U	20.0	19.5		ug/L		97	52 - 129	2	35
trans-1,2-Dichloroethene	1.0	U	20.0	20.2		ug/L		101	69 - 126	3	35
Trichloroethene	1.0	U	20.0	19.0		ug/L		95	56 - 124	8	35
Vinyl chloride	1.0	U	20.0	25.1		ug/L		125	49 - 136	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	94		69 - 122
Dibromofluoromethane (Surr)	94		78 - 129

## Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-474632/5  
Matrix: Water  
Analysis Batch: 474632

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/26/21 10:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 133		02/26/21 10:47	1

Lab Sample ID: LCS 240-474632/4  
Matrix: Water  
Analysis Batch: 474632

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	80		70 - 133

Lab Sample ID: 240-144712-3 MS  
Matrix: Water  
Analysis Batch: 474632

Client Sample ID: MW-37-MS\_021721  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170

Eurofins TestAmerica, Canton



# QC Sample Results

Client: ARCADIS U.S., Inc.  
 Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

<u>Surrogate</u>	<u>MS</u> <u>%Recovery</u>	<u>MS</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	80		70 - 133

**Lab Sample ID: 240-144712-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 474632**

**Client Sample ID: MW-37-MSD\_021721**  
**Prep Type: Total/NA**

<u>Analyte</u>	<u>Sample</u> <u>Result</u>	<u>Sample</u> <u>Qualifier</u>	<u>Spike</u> <u>Added</u>	<u>MSD</u> <u>Result</u>	<u>MSD</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec.</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>Limit</u>
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170	0	26

<u>Surrogate</u>	<u>MSD</u> <u>%Recovery</u>	<u>MSD</u> <u>Qualifier</u>	<u>Limits</u>
1,2-Dichloroethane-d4 (Surr)	81		70 - 133

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# QC Association Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## GC/MS VOA

### Analysis Batch: 474632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144712-2	MW-64_021721	Total/NA	Water	8260B SIM	
240-144712-3	MW-37_021721	Total/NA	Water	8260B SIM	
240-144712-4	MW-38_021721	Total/NA	Water	8260B SIM	
240-144712-5	MW-219S_021721	Total/NA	Water	8260B SIM	
240-144712-6	MW-33_021721	Total/NA	Water	8260B SIM	
MB 240-474632/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-474632/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-144712-3 MS	MW-37-MS_021721	Total/NA	Water	8260B SIM	
240-144712-3 MSD	MW-37-MSD_021721	Total/NA	Water	8260B SIM	

### Analysis Batch: 474649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144712-1	TRIP BLANK	Total/NA	Water	8260B	
240-144712-2	MW-64_021721	Total/NA	Water	8260B	
240-144712-3	MW-37_021721	Total/NA	Water	8260B	
240-144712-4	MW-38_021721	Total/NA	Water	8260B	
240-144712-5	MW-219S_021721	Total/NA	Water	8260B	
240-144712-6	MW-33_021721	Total/NA	Water	8260B	
MB 240-474649/8	Method Blank	Total/NA	Water	8260B	
LCS 240-474649/5	Lab Control Sample	Total/NA	Water	8260B	
240-144712-3 MS	MW-37-MS_021721	Total/NA	Water	8260B	
240-144712-3 MSD	MW-37-MSD_021721	Total/NA	Water	8260B	

# Lab Chronicle

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Client Sample ID: TRIP BLANK

Lab Sample ID: 240-144712-1

Date Collected: 02/17/21 00:00

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474649	02/26/21 18:00	HMB	TAL CAN

## Client Sample ID: MW-64\_021721

Lab Sample ID: 240-144712-2

Date Collected: 02/17/21 09:50

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474649	02/26/21 18:24	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 11:38	SAM	TAL CAN

## Client Sample ID: MW-37\_021721

Lab Sample ID: 240-144712-3

Date Collected: 02/17/21 11:30

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474649	02/26/21 18:48	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 12:03	SAM	TAL CAN

## Client Sample ID: MW-38\_021721

Lab Sample ID: 240-144712-4

Date Collected: 02/17/21 12:55

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474649	02/26/21 19:13	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 13:19	SAM	TAL CAN

## Client Sample ID: MW-219S\_021721

Lab Sample ID: 240-144712-5

Date Collected: 02/17/21 14:15

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474649	02/26/21 19:37	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 13:44	SAM	TAL CAN

## Client Sample ID: MW-33\_021721

Lab Sample ID: 240-144712-6

Date Collected: 02/17/21 15:42

Matrix: Water

Date Received: 02/20/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	474649	02/26/21 20:01	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	474632	02/26/21 14:09	SAM	TAL CAN

### Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Eurofins TestAmerica, Canton

# Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.  
Project/Site: Ford LTP - On Site

Job ID: 240-144712-1

## Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21 *
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

# Chain of Custody Record



TestAmerica Laboratory location: Brighton — 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Regulatory program:  DW  NPDES  RCRA  Other

Client Contact: Arcadis  
 Address: 28550 Cabot Drive, Suite 500  
 City/State/Zip: Novi, MI, 48377  
 Phone: 248-994-2240  
 Project Name: Ford LTP On-Site  
 Project Number: 30050315.401.03  
 PO # 30050315.401.03

Client Project Manager: Kris Hinskey  
 Telephone: 248-994-2240  
 Email: kristoffer.hinskey@arcadis.com

Site Contact: Julia McClafferty  
 Telephone: 734-644-5131

Lab Contact: Mike DeMonico  
 Telephone: 330-497-9396

TestAmerica Laboratories, Inc.  
 COC No.:

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Filtered Sample (Y/N)	Composite=C / Grab=C	Analyses							Sample Specific Notes / Special Instructions:	
			Air	Aqueous	Sediment	Soil	Other:	H2SO4	HNO3	HCl			NaOH	ZnAc/KOH	Other:	1,1-DCE 8260B	cis-1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B		TCE 8260B
TRIP BLANK	2/17/21		Air																		1 TRIP BLANK
MW-64-021721	2/17/21	0950	Air																		3 VOAS METHOD 8260B
MW-37-021721	2/17/21	1130	Air																		3 VOAS METHOD 8260B SIM
MW-37-MS-021721	2/17/21	1130	Air																		PREFORM MS/MSD
MW-37-MSD-021721	2/17/21	1130	Air																		
MW-38-021721	2/17/21	1255	Air																		
MW-2195-021721	2/17/21	1415	Air																		
MW-33-021721	2/17/21	1542	Air																		

Possible Hazard Identification  
 Non-Hazard  Flammable  Irritant  Poison B  Unknown

Sample Disposal (A fee may be assessed if sent to Client):  Return to Client  Disposal By L

Barcode: 240-144712 Chain of Custody

Relinquished by: *Christina Weaver* Company: ARCADIS Date/Time: 2/17/21 1700  
 Relinquished by: *Julia McClafferty* Company: Arcadis Date/Time: 2/19/21 10.11  
 Relinquished by: *Amanda Battelheld* Company: ETTA Date/Time: 2/19/21 1433

Received by: *NOVA COLO STORAGE* Company: ARCADIS Date/Time: 2/17/21 1700  
 Received by: *Christina Weaver* Company: ETTA Date/Time: 2/19/21 10.11  
 Received in Laboratory by: *Amanda Battelheld* Company: T.A. Date/Time: 2-20-21 800



**Eurofins TestAmerica Canton Sample Receipt Form/Narrative**  
**Canton Facility**

Login # : 144712

Client Arcadis Site Name \_\_\_\_\_

Cooler unpacked by: \_\_\_\_\_

Cooler Received on 2-20-21 Opened on 2-20-21

FedEx: 1<sup>st</sup> Grd Exp UPS FAS Chopper Client Drop Off TestAmerica Courier Other \_\_\_\_\_

Receipt After-hours: Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

TestAmerica Cooler # TA Foam Box Client Cooler Box Other \_\_\_\_\_


Packing material used: Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt  See Multiple Cooler Form  
 IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 0.8 °C Corrected Cooler Temp. 0.9 °C  
 IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No  
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No  
 4. Did custody papers accompany the sample(s)? Yes No  
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No  
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No  
 7. Did all bottles arrive in good condition (Unbroken)? Yes No  
 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No  
 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?  
 10. Were correct bottle(s) used for the test(s) indicated? Yes No  
 11. Sufficient quantity received to perform indicated analyses? Yes No  
 12. Are these work share samples and all listed on the COC? Yes No

**Tests that are not checked for pH by Receiving:**  
  
 VOAs  
 Oil and Grease  
 TOC

- If yes, Questions 13-17 have been checked at the originating laboratory.  
 13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC907861  
 14. Were VOAs on the COC? Yes No  
 15. Were air bubbles >6 mm in any VOA vials?  ← Larger than this. Yes No NA  
 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes No  
 17. Was a LL Hg or Me Hg trip blank present? \_\_\_\_\_ Yes No

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

**18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**  additional next page

Samples processed by: \_\_\_\_\_

**19. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**20. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_